# CHEUK HIN (ALVIN) LI

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## SUMMARY

- Proven fast-learner with strong leadership skills
- 2 years of experience in Java
- 1 year of experience in Python, C# and SolidWorks
- Currently exploring the applications of machine learning through Arduino and Tensorflow

## EDUCATION

University of Waterloo
Sept. 2019 to Present
BASc (Biomedical Engineering) Candidate

- President's Scholarship
- China HK Entrance Scholarship
- CPAC Scholarship
- Students Making an Impact Scholarship

## INTERESTS

- Enjoys video-editing using Adobe After Effects and creating graphics using Adobe Photoshop
  - Designed and sold class apparel (sweaters, patches and hats)

## PROJECTS

**Gesture Controller** — Dec. 2019 – Present

- Gesture controller based on accelerometer and camera data
- Collected photos and trained neural network to recognize hand gestures

**Analyzing text messages using AI** — Sep. 2019 – Nov. 2019

- Generated text based on conversation history using Long short-term memory (LSTM) networks
- Trained model to detect positivity and computed the most positive person and month of the year

**Automated Reaching Member (A.R.M.)** — Sep. 2019 – Dec. 2019

- Created a robotic arm controlled by a joystick within two weeks using Arduino, kiCAD and Solidworks

## EXPERIENCE

**Haptics Team Member** — Sep. 2019 – Present
*BioMechatronics*, Waterloo, ON

- Use Arduino to measure acceleration during the gait cycle
- Design GUI for displaying live-graphs using Python
- Extract information that can be applied in code from publications
- Teach junior members to use Python and Matplotlib

**Linear Induction Motor Team Member** — Sep. 2019 – Present
*Waterloop*, Waterloo, ON

- Design coil-winding mechanism for motor to replace traditional manual coiling using Solidworks
- Improve mechanism's efficiency and safety by considering material interactions
- Reduce expenses by optimizing the use of existing materials
- Manufacture mechanisms through 3D printing

**Research Student** — Jun. 2018 – Present
*Hospital for Sick Children (SickKids)*, Toronto, ON

- Investigate the relationship betweeen the presence of proteins and the thickness of biofilm by analyzing images using ImageJ, Comstat2 and Volocity
- Automate analysis using Python, reducing time spent by 50%
- Culture and identify bacteria using MALDI-TOF Biotyper
- Created a lab website using Wordpress and HTML within 5 days

**Vice President of External Affairs** — Aug. 2017 – Jul. 2019
*Project 5K*, Toronto, ON

- Doubled volunteer opportunities by cultivating new relationships with local organizations and government bodies
- Crafted over 70 pages of graphics using Adobe Photoshop and Illustrator
- Tripled social media following through new social media campaigns such as Monthly Posters
- Created front-end of website (project5k.ca) using Wix